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published here for the first time. Width 0,45 m., height 0,82 m.

Plate 39. — Necklace and Bracelets, by Th. Strube and Son, Jewellers in Leipzig.

The necklace, executed after the design of Prof.

Zur Strassen from the Royal Academy in Leipzig. All the objects are in dead gold, with soldered ornaments in relief.

Plate 40. — Book Cover, from the design of Prof. Fischbach in Hanau, by G. Fritzsche in Leipzig.

VARIOUS.

Three Famous Clocks.

The late Royal Exchange of London had a remarkable clock. Its chimes consisted of fifteen bells. It had four dials, chimes and four wind-dials. The chimes played at three, six, nine and twelve o'clock. On Sunday it played the "One hundred and fourth psalm"; on Monday, "God save the King"; on Tuesday, the "Waterloo march"; on Wednesday, "There's nae luck about the house"; on Thursday, "Life let us cherish"; on Friday, "See the conquering hero comes"; on Saturday, "The Foot Guards march." On January 10, 1838 the Exchange was consumed by fire, the clock-tower alone remaining, the dials indicating the exact time at which the flames reached them: north, at twenty minutes past one o'clock; south, at five minutes past five o'clock. The last air played by the chimes at twelve o'clock, was the very appropriate one of "There's nae luck about the house."

A clock at Lyons, France, has a crowing cock that flaps his wings and thrice sounds his shrill clarion every three hours. In a gallery beneath him, a door opens on one side and out comes the Virgin Mary, and from an opposite door the Angel Gabriel, who meets and salutes her. A dove descends upon the Virgin's head; and after these have retired, a reverend father comes forth and pantomimically gives the spectators a blessing. The days of the week are represented by seven figures, each of which takes its place in a niche on the morning of the day it symbolizes, and remains there until midnight.

Another marvellous specimen of clock work is to be seen at the palace of Friedenstein, in Gotha. It is an astronomical clock and orrery, and was the labor of an ingenious monk for forty years. It has recorded with accuracy for upward of one hundred years the motions of the heavenly bodies, the days, months and years in their eternal round; one hand moving an inch of the dial in the brief space of a second; another toiling through the same long and weary journey in a hundred years; and a feeling of awe involuntarily creeps over the mind as one contemplates the little index that has pointed out the rise and fall of empires, progressing in its silent, onward course like the unerring course of time.

The Jeweller, Silversmith and Watchmaker.

Artificial Ivory.

Natural ivory has been investigated as to its composition, and the proportions of the materials found *in natura* have been adopted for the manufacture of artificial ivory. Two parts of indiarubber are dissolved in 36 of chloroform, and the solution saturated with pure ammoniacal gas. The chloroform is then distilled at 180° Fah. The residue is mixed with phosphate

of lime, or pulverised carbonate of zinc, pressed in moulds and dried. When phosphate of lime is used, the artificial product resembles natural ivory very closely. The matters for which no substitute is provided are of small importance. In Paris M. Dupré makes artificial ivory with papier mâché and gelatine. Billiard balls made of this substance cost only a third the price of ivory, while they possess all its hardness and elasticity. Used for other purposes, this pasty compound takes the name of Paris marble, and is worked up for mouldings, capitals of columns and architectural ornamentation generally. *Iron.*

Oxidised Silver.

The colour of so-called oxidised silver does not depend on oxidation, but on sulphurisation. The silver goods are dipped into a boiling hot solution of calcium sulphide or hyposulphite of soda, or into ammonium sulphide, until they have taken the proper colour. "Old silver" is a coloration produced by laying on a mixture of blacklead and oil of turpentine, or some fatty matter, and cleaning off with blotting paper until no more colour comes away. Copper acquires a handsome look if treated in the same manner. If it is desired to varnish oxidised silver, take 18 parts alcohol, 3 red arsenic, and 1 castor oil, and a non-transparent varnish can be made, which may be diluted with its own volume of alcohol, if a particularly thin coating is wished.

Eng. and Min. Journal.

Bronzing with Aniline.

M. O. Fiorillo's method of performing this process is as follows: — Take 10 parts of aniline red from what is called diamond fuchsine or roseine, and 5 parts of aniline purple (methyl-violet), and dissolve them in 100 parts of alcohol raised to 203 degrees F., taking care to plunge the vessel in which the mixture takes place into a water or sand bath, to promote solution. As soon as the whole is dissolved, add 5 parts of benzoic acid, and boil for five or ten minutes, until the green colour of the mixture is changed in a fine bright gilt bronze.

The colour so produced possesses great brightness, is very fast, and adheres to paper, pasteboard, wood, glass, tin, porcelain, leather, and other substances. It can be easily applied with the brush, and dries in a few minutes. It answers just as well on white ground as on coloured, and is particularly suitable for bronzing ladies' shoes and leather articles, to which it gives a beautiful bright golden bronze colour. It adheres with equal tenacity to all metals; and may consequently be used in all kinds of decoration.

The Practical Magazine from Papier Zeitung.